The Builder.

No. CCXXX.

SATURDAY, JULY 3, 1847.

ANXIOUS to convey early information to our readers on all occurrences within our province, and to offer such opinions and suggestions as appear desirable, we occasionally find at the close of our week an accumulation of subjects, each worthy of separate and lengthened notice, for the full consideration of which we have neither time nor space. This happens to be the case on the present occasion; and we propose, therefore, to throw them together, in the shape of a gossipping article, and to return hereafter to such of them as may call for further notice.

This will especially be the case with the "Report of a Special Committee of the Council of the Government School of Design," which, after great delay, many questions in the House of Commons, even its removal from the House after being placed there, has at last made its appearance, and will probably lead to an improvement in the management of the school, at present, undeniably unsatisfactory and inefficient. The report itself (occupying seven pages and a quarter out of the 144 contained in the blue book) is very brief, but, taken in connection with the evidence and statements laid before the committee,* will be found valuable.

According to the report the following are the principal points complained of:—

"1. That the principles of ornament, and the practice of original design as applicable to manufactures, are not efficiently taught.

2. That a knowledge of manufacturing processes, so as to enable the students to unite fitness and practicability in ornament, is not communicated.

3. That a large proportion of the students receive instruction only in elementary drawing, and, consequently, that an expensive class of masters are employed, especially in the morning school, in that elementary instruction, instead of in teaching the higher branches of art.

4. That, in consequence of the space occupied by the elementary classes, there is not sufficient accommodation for painting. (The deficient ventilation complained of, has since, to a great degree, been remedied).

5. That there is not sufficient accommodation for modelling, and none for casting.

6. That the collection of works of art, and books of prints, belonging to the school, are, from inaccessibility, and want of the means of reference, by descriptive catalogues, of less use to the students than ought to be the case.

7. That the directorship is a barrier between the council and the masters; prevents a direct communication of the masters with the council, and the prompt application of remedies to inconveniences complained of; thus diminishing their sense of responsibility, by depriving them of the credit of success, or discredit of failure, with the classes entrusted to them.

8. That, under the present arrangements, the council is burthened with the management of many official and financial details, which might be left wholly to some official person, reserving the time of the council for the consideration of the more important matters relating to the general arrangements of the school, its main objects, and the best mode of carrying them out."

* The committee consisted of the following members:—Mr. Cockerell, R.A., Mr. Etty, R.A., Mr. Gardiner, Mr. Hawes, M.P., Mr. R. Ker, Mr. Lefevre (chairman of the committee), Mr. Richmond, Sir R. Westmacott, R.A., and Mr. Wyse, M.P.

The parties examined were Mr. Wilson, director, Mr. Redgrave, Mr. Townsend, Mr. Hornley, Mr. Le Jeune, Mr. Richardson, and Mr. Stevens. In addition to letters, &c., from the above, there are also printed statements from M. Belloc, director of School of Design, Paris, Mr. B. Burchett, a late student, Mr. Dyce, A.R.A., Mr. R. Ker, Mr. Poynter, Dr. Cooke Taylor, Mr. Thompson, of Clitheroe, and Sir Richard Westmacott.

After expressing their conviction that the power of exact imitation is the first thing to be acquired, the committee suggest that some knowledge of anatomy and structural botany should be given, in addition to the several heads of instruction already attended to. A thorough revision of the copies now in use in the school must be made. The complaint that the principles of ornament and the practice of original design as applicable to manufacture are not efficiently taught demand the most serious attention of the council. While they think that the advantages derived from the present instruction is under-rated by some of the witnesses, they say:—

"We cannot, however, regard this instruction, which appears to be neither general nor systematic, as *the whole* which ought to be given in respect of ornamental design. On the contrary, having regard to the principal object for which the School of Design was instituted (the teaching of design with a view to the improvement of those branches of manufacture which are susceptible of ornament), and to the intentions of Government and Parliament, and the amount of the funds devoted to this purpose, we think that we should endeavour to devise and carry into effect a systematic and complete course of instruction, which should embrace the theory and principles of ornamental design (including the history and explanation of the different styles), and the application of those principles to the various kinds of manufacture, to the end that the power of making original designs may be acquired by the pupil, and may be exercised by him, whilst in the school."

They recommend lectures, a course of reading, analyses of the principles of ornamental art, and that suitable themes or subjects for original designs should be submitted to the students. They also recommend the creation of several classes, according to sufficiency, for instruction in design, a public exhibition of the works of the students, and the distribution of rewards. They think it desirable that the masters who teach design should possess a general knowledge of the peculiar conditions to be observed, in producing designs for different manufactures. The establishment of a few subsidiary schools in the metropolis, where the elementary portion of drawing might be taught by subordinate instructors, so as to give greater accommodation for the study of design at Somerset House, is recommended.

As to the director: whether under that or another name, they consider a paid officer for the supervision of the instruction and discipline of the school indispensable.

"The committee admit the difficulty incidental to this arrangement, namely, that masters of adequate talent and eminence in their profession, will feel unwilling to serve in subordinate relation to the officer in question, who, however well qualified for his general duties, may have less knowledge and experience than the master in the branches of instruction which they teach. Your committee think that the best mode of meeting this difficulty is, by defining with as much accuracy as possible, the duties of the masters: by not permitting the director to interfere with the masters in the management of their classes; but by reserving all such interference to an instruction committee, and by allowing the masters to communicate freely and directly with such instruction committee, and also to report respecting their classes and their own branches of instruction, to the council.

Your committee approve of the principle, that the masters to whom classes are entrusted should each have the full credit of success of his class, and the discredit of failure."

Throughout the evidence the importance of the point here alluded to, and to which we have often referred, is strongly dwelt on. Take, for example, one extract from Mr. Townsend's evidence. In reply to a question put to him by Sir Richard Westmacott, he said to the chairman:—

"This, Sir, involves a point of much nicety. Will it be offensive that I speak with unreserved candour? . . . . . *The Chairman.*—By no means: we are ready to hear all your opinions. . . . . I do then firmly believe (and I have had as much experience in the school as any artist, except Mr. Dyce, Mr. Herbert, and Mr. Wilson), that at the present moment the *whole system* is one which is not calculated to carry out the objects the Government had in starting the school. The truest, most powerful stimulus to the masters would be an honourable distinction in the conduct of the school: from this they are now shut out. Their offices are not posts of honour. The improvement of art is never obtained by the depression of its professors. Yet, at the present moment, I feel the situation I have obtained there to be valuable only in regard to pecuniary emolument, and that is not very great. I cannot conceive that it can be a proper arrangement, that the artists who occupy the situations of the chief working officers in a great Government Institution should in any way feel themselves put in a subordinate position, they being the really efficient workers-out of all the operations of instruction in the school."

"The head masters are looked upon as inferior to the director, as in fact the mere servants of the council, bound to work out the ideas of the director, whether they can shew that those ideas are correct or not."

That it is so is clear; and this must forthwith be altered. An honourable distinction in the conduct of the school *is* the best stimulus that can be given to the masters.

Enough, however, on this head at present: we must now look at art in another place, namely, in Westminster Hall, where are gathered together the 123 works of art submitted in competition to the Royal Commissioners of Fine Arts, as mentioned last week.

Before doing so, however, let us once more draw attention to the preparation for the destruction of the hall which has been made around it. Mr. Stuart Wortley pointed out, the other night, in the House of Commons, that the screen which had been used for the exhibition of the cartoons would tend, should a fire occur, to the destruction of the whole fabric. We are much more fearful, however, of the erections outside,—a parcel of wooden sheds, with fire-places in them, piled round about the hall as if for the express purpose of burning it down. Surely some other arrangement for the officials here accommodated could be made. The reply that Mr. Wortley received to his remark will be less satisfactory to artists, by the way, than it was to him. Lord Morpeth said there would be no exhibition of drawings or cartoons in Westminster Hall after the one then about to open; as soon as that exhibition closed, the woodwork would be removed.

But as to the exhibition itself. It is certainly most creditable to the country; and remembering what other works have been produced in England during the time since this competition was advertised, may be regarded as little less than extraordinary.

In the notice of the exhibition which appeared in our last number, written before the decision of the judges* was known, nearly the whole of the selected works are pointed out for special commendation, as an examination of the following list of the successful competitors will shew.

Premiums of Five Hundred Pounds.—"Burial of Harold at Waltham Abbey," F. R. Pickersgill, 8, Leigh-street, Burton-crescent; "Alfred inciting the Saxons to prevent the Landing of the Danes, by encountering them at Sea," G. F. Watts, 48, Cambridge-terrace, Edgeware-road; "The Battle

* Lord Lansdowne, Sir Robert Peel, Mr. Samuel Rogers, Sir Richard Westmacott, R.A., Mr. Richard Cook, and Mr. William Etty, R.A.

of Meeanee," Edward Armitage, 13, George-street, Adelphi.

Premiums of Three Hundred Pounds.—"Richard Cœur de Lion forgiving Bertrand de Gourdon," John Cross, 85, Fetter-lane; "Edward's Generosity to the People of Calais during the Siege of 1346," Paul Falconer Poole, 1, St. John's-place, Lissongrove, North; "Christ Bearing the Cross," and Reconciliation of Oberon and Titania," J. Noel Paton, Wooer's Alley Cottage, Dunfermline.

Premiums of Two Hundred Pounds.—"Parable of Forgiveness," and "Wisdom," James Eckford Lauder, 35, Upper Charlotte-street, Fitzroy-square; "The Departure of the 'Primitive Puritans,' or, 'Pilgrim Fathers,' to the Coast of America, A.D. 1620," Charles Lucy, Tudor-lodge, Albert-street, Mornington-crescent; "Henry V., when Prince of Wales, believing the King to be dead, takes the Crown from the Cushion," John Callcott Horsley, The Mall, Kensington Gravel-pits.

Against the decision of the Commissioners we shall not offer a word of objection: in the main we agree fully with them, and knowing that they have given much more time and thought to the inquiry into the relative merits of the various works submitted, than observers like ourselves could do, we should hesitate before we differed from them as to the position in the list of the nine selected pictures.

Mr. F. Pickersgill's painting is a noble work, exhibiting great natural ability, combined with the effects of unflinching study and perseverance. The low tone which pervades it, harmonises well with the solemnity of the event, and the general treatment of the whole is no less striking than the judicious choice of subject. It stands most deservedly at the head of the list. To Mr. G. F. Watts we would give much praise. His work, though inclining somewhat too much towards the early Italian masters, has rarely been surpassed for fine drawing and purity of style.

Mr. Edward Armitage's "Battle of Meeanee," is painted in close imitation of Horace Vernet's best style, and is remarkable for its energy of action. The eye wanders in vain for a focus, all is glitter, confusion, and animation; but it is, nevertheless, a marvellous performance.

Mr. John Cross's "Richard Cœur de Lion forgiving Bertrand de Gourdon," is evidently the fruit of a continental education. The figure of the assassin is ably conceived; his momentary fear and astonishment are accurately delineated, and wonderfully suited to the cause of those emotions. The king is not so happily portrayed. The head is the head of a saint rather than that of Richard, a lamb in peace, a lion in war, under whose battle-axe hundreds fell; but in spite of all this, it is a most meritorious production, and in every way worthy of the awarded premium.

For sentiment, and exhibition of sorrowful emotions, Mr. Poole stands almost alone. His present work, rich in the most touching episodes, must affect the spectator, let him be who he may. Beautiful in colour, although eccentric in composition; it is a work of which the country may be justly proud.

The two contributions of Mr. J. Noel Paton are in all respects worthy of a matured hand, more especially the smaller: it abounds in talent, every square inch teems with the fruits of a most lively and imaginative fancy, giving an excellent notion of what fairy land is, or at all events, ought to be. His larger and more important work, reminds one too forcibly of the old masters.

Mr. James Eckford Lauder's "Parable of Forgiveness" is a clever embodiment of the subject, novelly conceived and well coloured; the composition perhaps wants unity.

Mr. Lucy's "Departure of the Primitive Puritans to the Coast of America (34), is a great improvement on any former exhibited work by him, nicely conceived and full of character.

Mr. Horsley has shewn much feeling and careful execution in his "Henry V.:" the best part in the picture is decidedly the sick king; the light on the head and face is beautifully managed,

Independently of the prize pictures, there are many of a high class of merit, amongst which those by Mr. Corbould, Mr. Townsend, Mr. Dobson, Mr. Cave Thomas, Sir W. Allan, Mr. Dighton, Mr. Woolnoth, Mr. R. S. Lauder, Mr. Foggo, Mr. Morris, Mr. Knell, and Mr. Goodall, may be named. Mr. Linton has two excellent landscapes.

It may be hoped that further prizes will be given, in which case we trust Mr. Corbould will not be forgotten. His picture "William Eynesham Reciting the Valour of the Rose of Rouen," is full of genius and beauty.

We further hope that some of the many fine works here exhibited will be purchased. Their size will operate against the sale of them to private buyers; but our wealthy corporations might well expend upon them some of their surplus funds, for the adornment of their halls and meeting-rooms. Let London, at all events, set an example. In Oxford, there would be good room for a few of them, and we hope the hint will not be lost sight of.

To this latter place we railed down last week, for a few hours, to see what "The British Association for the Advancement of Science" were doing, and found it a brilliant meeting, so far as respects the number of eminent men there assembled, though scarcely so as to the number of "new things booked." We are not amongst those, however, who will complain of this. The great purpose of the Association is to bring men of all countries, but of like mind together, and to spread a taste for science throughout the country. We did not hear the promised paper on the Dee bridge failure, but look for it.

The excitement caused by this failure is not yet allayed. The Railway Commissioners however, appear to be taking steps to prevent the recurrence of a similar accident. Mr. Strutt said in the House a few nights since relative to Captain Symond's report on the bridge in question:—"The commissioners have since taken the report into consideration, and the conclusion they have drawn from it is, that further experiment and examination are necessary with regard to the use of cast-iron in the construction of railway bridges. The commissioners have reason to believe, that though there has been sufficient experience to regulate the use of cast-iron where it is subjected to steady pressure, additional experiments and further information are required as to those cases where, as in railway bridges, it is liable to the passing of heavy weights at great velocities, and where the vibration is caused under different circumstances. Taking this into account, the Board has recommended the Government to appoint *a commission to investigate the subject, with power to make experiments upon it;* that commission will be constituted partly of gentlemen of eminent scientific experience, and partly of practical engineers. In the meantime, circulars have been issued to all the railway companies in the United Kingdom, requesting them to make *a return of all the cast-iron bridges* they have on their lines, their dimensions, and other particulars; they are also recommended, in case there are the slightest doubts of the stability of any bridge, at once to give it additional temporary support, and, till the report of the experimental commission is made, to run the trains over it with great caution, and only at low rates of speed."*

The necessity for this return (which we urged last week without being aware of the determination come to by the commissioners) is great and obvious. The truth of the statement, that a flaw had been discovered in the girder-bridge over the Tame was denied by a correspondent, but we are now further assured that the report was correct. The deflection and oscillation were very considerable when a train passed over the bridge, and on examination, a fracture in one of the girders was discovered. The *Birmingham Journal* says, that with the view of making it secure, the permanent way has been raised, and workmen employed in driving huge piles between the piers to support the girders. "Four rows of piles have been driven under each of the arches, giving them in effect all the support of four additional piers, and there cannot be a doubt that they are absolutely essential to the safety of the structure."

We are disposed to believe that the contemplated investigation will shew the necessity for using *wrought*-iron in such situations, and hope it may lead to the arrangement of means for rolling large beams economically.

We should be glad to see the Institute of Architects move in obtaining a series of experiments as to the best means of effecting this. A memorial to the Government at this moment might be useful.

The Institute, as will be seen in another page, closed the Session on Monday last. We cordially echo the chairman's appeal to the members, calling upon them to supply remarks and information to maintain the interest of the meetings. *Apropos* of the Institute, and, as amongst the events of the week, we may notice the appearance of Mr. Donaldson's "Architectural Maxims and Theorems," being the first attempt, as the author says, to express some of the principles of the art in an axiomatic form, or as a series of distinct propositions. "The writing in aphorisms has many excellent virtues, whereto the writing in method does not approach," says Bacon: and again;—"knowledge, while it is in aphorisms and observations, is in growth,"—and upon these hints the professor has spoken. We cannot better close our present rambling article, than by quoting one of the maxims, to shew their character.

"Architecture is an aggregate of the Fine Arts; if alone, she is deficient in expression; if united to one only, she is still incomplete; and only acquires all her majesty when combined with both her sisters."

METROPOLITAN BUILDINGS ACT AMENDMENT BILL.—The second reading was fixed for Thursday night. We have every reason to hope, however, that it will be withdrawn.

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* A correspondent, who dates from Hull, says:—"It appears to me that the vibration in iron girders might be very much diminished by covering the whole of the platform of an iron bridge with saw-dust, bark from a tan pit, or the small chips from a ship-yard, say one foot thick, and placing upon this a floor of battens or planks, with the rails upon them. The loose nature and partial elasticity of such materials, so laid, would, I apprehend, prevent the communication of a vibratory motion to the girders underneath them. It has occurred to my mind that another plan of constructing railway viaducts might be adopted, and that is, by suspension-bridges, constructed of boiler plate. The principle in the construction of such a bridge would consist in employing ribs of boiler plate, of suitable gauge, placed parallel to each other at certain distances apart, the space between being filled in with solid timber, or by trussing. In small structures, solid timber might be used, but in bridges where the points of suspension are far apart, and the ribs of great depth, a system of trussing would be necessary. The object aimed at in either case is, of course, to prevent the ribs from twisting or winding. The ribs would require to be rolled into suitable lengths, and afterwards annealed. The connecting of the several parts of the ribs together, lengthways, should not be done by any method of riveting, but by tie bars passing transversely through them, and secured by keying with dove-tailed wedges, so as to stiffen the plates. I would place three ribs together, the outsides of the outer ones to be covered with planking, the inner spaces filled in solid: every set of three ribs should carry a rail, a second set another rail, and so on. In the narrow gauge, these sets of ribs would be about three feet apart, and this part would have to be trussed. W. L.

ROYAL INSTITUTE OF ARCHITECTS.

The closing general meeting of the session was held on Monday last, Mr. C. Fowler, V.P., in the chair. Amongst the donations announced were some portions of a work on Wren's Churches, by Mr. Clayton; *Description de la Chapelle Carlovingienne, et de la Chapelle Romane, restes du Château de Nimègue*, by Alexander Oltmans; and some Italian works on a new street at Milan, and on the sixteen ancient columns near Lorenzo. Portions of a fine work on *Les Monuments de la Lombardie*, by Frederic Osten, were exhibited.

The foreign secretary read a note in Mr. Oltman's work, from which it appears that in Amsterdam there is an institution for the promotion of architecture, which was founded in 1842, and has 700 members. The subscription is 4s. 2d. *per annum!*

Dr. Bromet exhibited a sketch of the Templar's church at Metz; and Mr. C. J. Richardson some drawings executed by two of his pupils at the School of Design.

The chairman, with some appropriate remarks, then presented to Mr. Boutcher, Gwilt's edition of "Chambers," and Hope's "Essay on Architecture;" and to Mr. Nicholl, Milizia's "Lives of the Architects," in accordance with the awards of the council.

Mr. Scoles, honorary secretary, read the following letter addressed to him by Mr. S. Smirke, relating to the architecture on the bas-reliefs from Nimrood, now in the British Museum.

"The object of this brief note is merely to call the attention of the Institute to the very singular architecture of the bas-reliefs just received by us from Nimrood.

They have so recently been subjected to minute inspection, that it would be unreasonable to expect philologists to have yet arrived at any certain conclusion in respect to their age; but the inscriptions are numerous and in excellent preservation, and there are learned men, capable of decyphering these strange chisselings, who are deeply engaged in tearing open the veil of mystery in which they are now enshrouded: we shall, therefore, soon be better acquainted with these marbles than we at present are. Of the conjectures that I have hitherto heard, some send back their date to an extremely remote antiquity, but the least sanguine archæologists incline to about six or seven hundred years B. C.

Here then we have, of almost the Homeric age, a lofty castle, with fortified turrets; a gateway, having a circular head; circular-headed windows on an upper story; crennellated battlements; overhanging parapets with embrasures; a well-defined chevron ornament forming the archivolt of the entrance gateway; masonry of perfect workmanship equal to that of the best period of Greek art.

The time is not far distant when the best informed antiquaries doubted the existence of any arch older than one hundred years B. C.; and if at that time an Eastern traveller had informed us on his return that he had himself witnessed these strange anomalies, his tale would have been certainly held by all to be an oriental fiction, utterly unworthy of credit or regard.

This is an instructive lesson, teaching the best of us to be diffident and cautious.

Since the Elgin marbles were brought to England, no similar arrival has occurred so calculated to excite the interest of artists and archæologists as these Assyrio-Babylonian remains, and it is most gratifying to reflect, that on this occasion we have not allowed our continental rivals to prevent England from enjoying the fruits of English enterprize."

The foreign secretary said, nothing was more difficult than determining with accuracy the age of a monument from the surface only: he was glad to find that able men were investigating the inscriptions on the bas-reliefs, as these would probably aid the inquiry. Even the evidence offered by these inscriptions, however, must be received with caution, as they might not be of the same date as the stones. His opinion was, that the arch was not known earlier than one or two centuries before Christ: he could not believe, that if such a development of science, such an advantageous system of construction, had been known, that the Greeks would have allowed it to remain asleep. There were many buildings of the Roman period in Egypt, and he thought it quite possible that the pyramid wherein it was said that an arch had been found, was of that date.

Mr. Scoles said that the soffit of the arch discovered by Sir Gardner Wilkinson was plastered, and that on the plaster was the name of Sesostris.

Mr. S. Angell, V.P., read a well-penned memoir of George Dance, the architect of Newgate, the Mansion House, &c., which was illustrated by a number of his original drawings from the Soane collection.

The chairman concurred in the opinion that had been expressed of Dance; he thought no one could look at Newgate or St. Luke's without admitting his genius. The latter, although flat and poor in a drawing, was effective in execution. He then reminded the meeting that it was the closing meeting of the session. Usually the chair had been filled by the president, who took the occasion to address to them remarks always instructive. He would not venture to emulate his lordship, but there was one suggestion often made by the president which he thought it was his duty to reurge. It was that each should, during the recess, put together some facts or observations, to be laid before the members in the ensuing session; it was only thus that interest could be given to the meetings. Although the contributions might be small individually, collectively they would be large and important. He afterwards alluded feelingly to the loss of Mr. Papworth, and adjourned the meeting to November next.

A NEW DESIGN FOR THE COMPLETION OF THE LOUVRE.

We have already alluded to certain projects for the reconstruction of the Royal Library at Paris, to examine which, a commission of inquiry was lately appointed by the Prefect of the Seine. This commission has given in its report in favour of the scheme for appropriateing the ground situate between the Louvre and the Carrousel. The decision, in the words of a French contemporary, is intimately united with the question of the completion of the Louvre, so often broached, so that great interest is given to the publication of a scheme in which that object is included. The author, M. Brunet de Baines, architect, instead of endeavouring to *unite* the Louvre and the Tuileries,—an attempt which, in consequence of the inclination of the axes of the buildings being different, has not yet appeared to present any probable success, has obviated the difficulty, and devised an ingenious combination of the buildings. Preserving a direct communication (Rue des Tuileries) between the Rue de Richelieu and the Pont des Saints-Pères, thus intersecting this arrangement transversely, he proposes, upon the Place du Palais Royal, an extension of the Louvre, which would exceed in area, the space occupied by the present building. This addition would comprise the Royal Library and rooms required for the Museum, and with its principal front in the Rue des Tuileries, would have another opposite the Palais Royal, the direction of the line of the front of the Tuileries, in the Rue de Rivoli, being continued. By this arrangement, a site for the Opera would have to be found elsewhere; and it is argued, that a building of such a nature in the immediate neighbourhood of the Library and Museum, would expose the national treasures to all the chances of destruction by fire. The site near the Rue des Bons Enfans is, therefore, filled with a *château d'eau*, as likely to be of greater service in case of a disaster. Further, the architect proposes to arrange part of the square of the Tuileries in semi-circular form. The centre of the semi-circle being in the Rue des Tuileries, and the arch of the Carrousel forming the summit, buildings of one story are added on each side, to the original edifice, at the springing of the curve. These additions are required for military posts, and the offices of the household.

The advantages expected from the proposal of M. Brunet de Baines are thus summed up:

1. Completion of the Louvre, with special application to the disposition of the royal library, and the gallery of paintings.

2. Disappearance of the defect of parallelism between the two axes of the Louvre and the Tuileries.

3. Establishing a grand road between the two banks of the river, at the most frequented point, and doing away with the wickets, which are so inconvenient for communication.

4. An area of monumental character in front of the Tuileries, and providing those appurtenances which are wanting in the building.

5. Complete isolation of the library, of the gallery of pictures, and of the palace, by means of the squares and quays surrounding those buildings; immediate succour in case of fire, and consequent security for those precious deposits, for the preservation of which, too many precautions cannot be taken.

It is further argued in favour of this scheme, that sufficient space would thus be provided for any probable extension of the collection, and that removing the library to the site proposed, and the opera to the present site of the library, would be a far more convenient disposition, as well as one more likely to ensure the safety of the buildings themselves, and those surrounding each of them.

THE LATE MR. ALLEN,
DISTRICT SURVEYOR.

We have to record this week the death of another architect, Mr. George Allen, who died on Monday last, the 28th June, at his house in Tooley-street, Southwark, after a short illness of about ten days. His decease in the prime of life, may be partly attributed to that zeal and energy for which he was distinguished in his early career, in the prosecution of any object to which he gave the attention of his mind, and which caused him to devote himself so unweariedly to the arduous duties of an extensive and increasing practice, that a comparatively slight indisposition led to a brain fever, terminating in typhus.

Mr. Allen was a pupil in Mr. James Elmes's office, and in 1820, obtained the silver medal at the Royal Academy, for a drawing of the portico and front of the College of Surgeons in Lincoln's-inn-fields, which had been erected a few years previously by Mr. Dance, of whom a memoir was read by Mr. Angell at the Royal Institute of British Architects, on Monday last, as elsewhere mentioned. A few years afterwards the sudden death of Mr. Varnham, an architect of extensive practice in Southwark, with whom Mr. Allen was about to enter into partnership, was the cause of his succeeding to that gentleman's business, and he was shortly afterwards engaged in conjunction with Mr. Savage and others for Mr. Peto, in making surveys and reports, and in giving evidence on the then recent failure of the foundations of the Custom House. This occasion called forth the exhibition of powers for which he was afterwards distinguished, namely, that of great firmness and self-possession under a cross-examination of counsel, who are not always the most courteous to a witness on the opposing side, and of considerable talent in the composition of reports, memorials, and business correspondence.

In 1827 and 1828 he gave his attention to the contemplated improvements in the approaches consequent on the building of new London Bridge. He memorialized the city authorities, and had models, drawings, and engraved views made, at an expense of above 300*l.*, in illustration of his designs for forming an approach to the new bridge from Tooley-street, particularly with reference to throwing open the east end of the church of St. Saviour's, Southwark; and likewise for forming a direct line from the bridge to the Bank, with a cross street to the Monument, and for converting the site of the northern abutment of the old bridge into an open dock for steam-vessels. Mr. Allen had the satisfaction of seeing these and many other of his suggestions adopted; but in reply to his memorial to the city authorities in 1830, to take his claims into consideration, he was informed that there was no fund available for such a purpose. These proceedings, however, brought him into notice in the borough, and for some years past he had been extensively employed in valuations, building of warehouses, and other works, arising from the improvements and alterations made in that neighbourhood; and after one of the great fires so prevalent in that district, he was employed to restore the church of St. Olave, in Tooley-street.

On the extension of the Metropolitan Buildings Act, Mr. Allen was elected District Surveyor for Rotherhithe and Hatcham; and on the occasion of a recent vacancy, he succeeded to the appointment of surveyor to the Haberdashers' Company.

His professional brethren, his clients, and even those to whom he was opposed, on occasions where conflicting interests were at issue, will bear testimony to the honourable manner in which he conducted himself, and to the zeal which he manifested at all times for the business he was engaged in, and likewise for his anxiety to support the character of the profession to which he belonged. Mr. Allen was admitted a few months since, a Fellow of the Royal Institute of British Architects.

J. J. S.

CHELSEA.

This interesting locality, which was fast falling into decay, has recently awakened into new life: a fresh spirit has been infused, and is leading to efforts which cannot fail to have a good result. The success of a literary and scientific institution, "The West London," established there a year ago, is one of the satisfactory evidences that may be adduced. At the closing meeting of the first session, a short time since, Mr. Francis Lloyd, a vice-president, who was in the chair, delivered a more than usually interesting address on its progress and prospects, and made an appeal to the wealth and intelligence of the neighbourhood for sympathy and support. We quote a portion of the address relating to the past and future of the place.

"Chelsea," said the speaker, "is in my mind associated with giants of literature. Here, on the banks of our noble river, were the Tullian villas of scholars and philosophers. Here—

> 'Where glides the silver Thames along,
> His silent winding way,'

lived Sir Thomas More. Here Erasmus visited him, and of whose visit to the domestic circle of the great chancellor he has left so charming an account, albeit rather hard upon our pretensions to classical literature, which, he says, 'Vix tenuis odor in Angliam demigráret.' His house was the resort of the most ingenious of that age. There would that brutal and unaccountable monarch, Henry VIII., visit and dine with him; and even used, as Roper informs us, to ascend with him to the house-top, to observe the stars and discourse of astronomy. 'A house,' says Erasmus, 'in which every one studies the liberal sciences; where the principal care is virtue and piety; where idleness never appears; where intemperate language is never heard; where irregularity and disorder are proscribed by the mere force of kindness and courtesy; where every one performs his duty, and yet all are so cheerful, as if mirth were their only employment. Such a house ought rather to be called a practical school of the Christian religion.' Sir Hans Sloane was afterwards the possessor of the same house. He, you know, was a very learned and indefatigable pioneer in science. He succeeded Newton in the chair of the Royal Society, and was president of the College of Physicians, to whom he presented the ground of the garden of the Apothecaries' Company, adjoining the Military Hospital. In the hamlet of Little Chelsea resided Sir Bulstrode Whitelock, Mr. Pym, the celebrated member of the Long Parliament, Bishop Fowler, Sir Robert Walpole, Sir Richard Steele, Dr. Meade, Addison, John Locke, Dr. Smollett; and Dr. Swift resided, as he tells us, in his letter to Stella, for some time in Chelsea. Queen Elizabeth received her education at a palace the site of Cheyne-walk. Our president (the Earl of Cadogan) derives his descent and valuable estates in Chelsea (I believe most of us are his tenants) from Sir Hans Sloane; and I doubt not, with the gallantry and liberality that distinguish his profession (the navy), will lend a helping hand to our institution, which his lordship may, I think, be proud to see rising on his property, and certainly not decreasing its value.

The changes witnessed in the face of the country, within the time of two not very old men, are more than likely to be surpassed during the same future period; and this institution may influence the nature of that progress to a great degree. On this very spot where we now assemble (a handsome street surrounded for miles by houses), not longer since than this period, was the Earl of Peterborough stopped by highwaymen, in what was then a narrow lane; and the robbers, being watched by the soldiers on guard at the gate of the college, were fired at from behind the hedge. One of the highwaymen was a student in the Temple, named Brown, whom Mr. Vernon, the Secretary of State, in a letter to the Duke of Shrewsbury, says, 'a friend of his (Sir John Talbot) knew well; and his father, losing his estate, Mr. Brown lived by play, sharping, and a little on the highway.' You may see this anecdote and others, portraying the manners, modes of thought, and occupations of society, from the Revolution of 1688 to the death of George II., in a very interesting work, now on our shelves, by Mr. Jesse. I think the part we are attempting to play, in carrying onward the great work of social development, cannot be wrong, if it only causes the possibility to be more remote of our parish being again favoured by gentlemen of the Temple for such recreation."

"We are at this time peculiarly fortunate in having a nobleman who has testified an interest in our young institution, chief commissioner of crown lands; his interest, in what all admit will prove conducive to the intellectual advancement of Chelsea, convinces us that the improvements I have alluded to for its ornament, as well as for its health, will be carried out to the fullest extent permitted by the legislature. Let Lord Morpeth carry out the plans he has at heart, and let the legislature support them, and no minister will be remembered with more gratitude to latest posterity. May we live to see this terrace, not taken from useful or profitable occupation, but borrowed from the unwholesome mud shoals of the Thames, planted with rows of fair elms, a broad carriage-way in the midst, and a water-side causeway for pedestrians, similar to the *quais* on each bank of the Seine, in Paris,—a continuation of our own admired Cheyne-walk, in fact, to Westminster-bridge; and mansions, spacious warehouses, and structures of all kinds, worthy of such a river as the Thames, will grow up, as if by enchantment, upon its margin. The huddled sheds and tumble-down tenements, that now shut us from the sight of it, would vanish. Only think what a beautiful sight would be a Cheyne-walk or a Temple-garden, miles in length, opening an avenue of fresh air and a new element of health to the entire population of this vast metropolis, as much a blessing as a beauty! Imagine how much longer we should live, how much more healthy, and, therefore, how much more happy, we should be, if, when wearied with confinement, enfeebled by sickness, or oppressed by toil, we could enjoy in its plentitude the health and pleasure of living by the river side. We have ruthlessly defaced the banks of the king of English rivers:—

> 'Strange that where Nature loves to trace,
> As if for gods, a dwelling-place,
> There man, enamoured of distress,
> Should mar it into wilderness.'

However, an opportunity for retribution to Father Thames appears at hand, and for redeeming our characters as marrers of Nature for Mammon. The science of sanitary economy is worthy of your consideration, and I trust we shall hear some lectures on the subject, and timely suggestions tendered to the commissioners just appointed under our new local Act, for rendering innoxious the principal gas generated by sewage matter—making the matter itself profitable; considerations highly useful to us in Chelsea, where streets and squares are rapidly covering every yard of ground. Not fifty years ago, for the greater part,

> 'Whereupon it stands,
> The vacant winds did whistle, and the laughing sunshine
> Sported in wild freedom.'"

Caxton Monument.—"A Practical Man," writing to the *Morning Chronicle*, suggests that the best monument for Caxton would be a "Caxton Hospital" for decayed printers. It might be erected among the buildings of the intended improvements in Westminster; and might afford an asylum for a certain proportion of decayed literary men as well as printers.

NOTES IN THE PROVINCES.

A new town-hall and market-house are to be built at Brentford, under the Small Debt Act provision for the erection of county courts in county towns.——The extension of the fortifications at Blockhouse, Portsmouth, and the artillery barracks is now nearly completed; and tenders will shortly be sent in for the erection of the battery and barracks at Point.——At a special meeting of the Cowes Commissioners on Monday week, an attempt to secure a supply of water to scour the existing sewers, and to reserve the water in the public highways for the exclusive supply of the poor, was resisted by seven of the Water Company's directors, against seven other commissioners, the chairman, one of the seven directors, giving his casting vote against the proposal. A protest was made against such voting by interested parties as contrary to the local Act. The commissioners are determined on having the poor supplied gratuitously, and the general consumers at a reasonable rate. They are about to engage an engineer to furnish plans for effectnally sewering the town.——The second graving dock at Southampton is now excavated and its size marked out. A portion only of the dock wharf will require to be taken down for the entrance, which will always be at high-water only. The saving in construction, compared with the first, will be estimated, says the *Hampshire Advertiser*, when we state that the coffer-dam alone cost 10,000*l.*! The entrance to the new graving dock will not require one.——A correspondent of the *Times* proposes that the 66,000 acres of the New Forest, which cost more than they yield by 1,469*l.* a year, and have yielded no timber for public purposes for eight years, should be cut down, inclosed, and cultivated, so as to yield an annual revenue of 30,000*l.* in place of 9,000*l.* A "Resident Foreigner," however, in response, hopes the *Times* will raise its potent voice to deprecate the act of vandalism proposed; for should such utilitarian principles gain ground amongst this money-loving generation, woe to Kensington, Kew gardens, Blenheim,—all the loveliest spots in England! What would the Chamber of Deputies think, he asks, of a project to destroy the forest of Fontainebleau or Compiégne?——Our appeal, and that of the *Bridgewater Times*, on behalf of the church of St. Mary, Bridgewater, has at length been responded to so far as regards the restoration of decayed stonework, the pointing of the walls after removal of the old plaster, the putting on of a new slate roof, &c. "It is not a little curious, in connection with this matter," says the *Bridgewater Times*, "to note the difference between the present time and the palmy days of jobbing, in what was proverbially called 'churchwork.' The contract for removing and clearing away the plaster from the tower and walls was undertaken the other day for the sum of 8*l.*, and the pointing and making good the walls for somewhere about 200*l.* For performing the same work, some years since, it cost the parish nearly 1,280*l.* Glorious old times those for jobbing and corruption! No wonder that there are many men who look back upon them with regret. They'll never look upon their like again."——The re-erection of the monument, near Carmarthen, in memory of the gallant deeds of General Sir Thomas Picton, is progressing rapidly.——On Thursday week Clydach new church was consecrated by the Bishop of St. David's.——The present proprietor of Reeston Castle, Cheshire, is in the act of rebuilding this ancient structure. In *Nixon's Cheshire Prophecies*, it is stated that "Beeston Castle shall not be rebuilt so long as a *king* remains on the throne of England."——St. Cuthbert's Church, Bedford, is to be consecrated on 8th instant.——A curious relic of antiquity was lately discovered at Silchester, the well-known Roman station. It is a small bronze eagle of elaborate workmanship, the plumage distinctly defined, but the displayed wings gone; from all appearance, it headed a staff or wand.——The *Buxton Herald* complains of a super-refined delicacy which is actively at work in the 'mutilation' of church water-spouts, &c., at Buxton, and is in dread of the spread of those Quixotic and indelicate she-Yankee notions which lead to war against the naked legs of chairs and tables, tongs and pokers. Modesty and purity of thought and fancy are the best fig-leaves

wherewith to wrap up all such far-fetched transatlantic indelicacies out of view.——In a brickfield at Sheffield last week, no less than 20,000 newly-made bricks were destroyed by the weather.——A new church, capable of accommodating three hundred persons, is in course of erection at Great Lever, says the *Birmingham Gazette*. The Earl of Bradford has given the land, 1,000*l.* towards the endowment, and 500*l.* towards the erection.——The *Manchester Guardian* gives its readers of last week a somewhat curious illustration of what it calls the 'power of the auctioneer's hammer.' In 'knocking down' some 'substantial building materials' at Salford, 'Mr. Fullolove' had scarcely announced that the floor on which some thirty bidders stood, along with Mr. Fullolove himself in the midst of them, was 'going—gone,' when, 'knocking it down' with his official hammer, away it went, with all and sundry, down indeed, to the floor below, but fortunately, *facili descensu*, only Mr. Fullolove had his knee injured and his garments rent, and Mr. Nelson, a builder, also suffered by the fall of a beam on his thigh. The redoubtable auctioneer, however, proceeded to knock down the other floors as if it were but a portion of his legitimate duty to do what was done, but the bidders prudently stood on *terra firma* till the work was finished.——The catacombs of the Hull General Cemetery Company are to be begun forthwith, on the plans of Mr. Brodrick, in keeping with the entrance-lodge now in course of erection, and the proposed chapel. They consist of a series of Gothic arches, forming a colonnade below and a terrace above.——The contractor is making rapid progress with St. Cuthbert's Church and steeple, now being erected at Bensham, Gateshead.——It has been resolved to erect a gas-work at Kettle, N. B., to supply the inhabitants of that village and Kettle Bridge with gas. The money has been all subscribed for, and the works will be erected so soon as the necessary arrangements are completed.——The new quays at Lancefield, Glasgow, are in an advanced state of progress. The facing of cut stone is nearly finished, and upwards of a hundred men are employed in cutting away the embankment. The new dock on the other side of the river is a much more extensive work. Two hundred men, according to the *Reformers' Gazette*, are at present at work in sinking it, but it probably will not be finished before three years. Docks were almost the only thing wanting to make Glasgow rank among the first-rate sea-ports.——The Earl of Stair has intimated his intention of giving 1,000*l.* towards the erection of the proposed new pier at Stranraer.——As it is still determined that before the 15th of August all the public works under the Irish Labour-rate Act are to be finally closed, the numbers employed in the meantime are rapidly diminishing, though, in some places, the effect has been greatly to increase the expenditure for out-door relief. The Government mean, at the same time, to dispense with the services of the commissariat department in Ireland.——Preparations are now being made towards the erection of the new college at Belfast. A considerable number of men are engaged in clearing the grounds and arranging the materials for the edifice.

An Edinburgh Genius.—A house-painter and glazier in Edinburgh, having become convinced that he was at the very top of his profession, and could add no more to his stock of knowledge in "Auld Reekie," took it into his head the other day to pay a visit to Italy, and have a personal inspection of the performances of the great Italian painters. Before leaving, he called upon a friend in the high street, and announced his intention in these words:—"I say, Willie, ye ken I am at the head o' house-painting in Embro', and can learn nae mair here, so I am just on my way to visit the painters o' Italy, to see what can be made o' them." Commending his resolution, his friend replied, "Weel, Sandy, I think ye're right, after a'; but when ye are at it, at ony rate I would strongly recommend a visit in passing, to the *glaziers* o' Switzerland."

Gun Cotton.—Very satisfactory experiments, according to the *Merthyr Guardian*, have been made near Merthyr, with Professor Schönbein's gun cotton, by Messrs. Wheeler and Ringer, for the patentees.

PROTECTION OF STONE WORK FROM ATMOSPHERIC INFLUENCE.

Sir,—Having in the course of the last twenty-seven years, tried various expedients for the preservation of marble and stone from the all-destroying effects of our atmosphere, and finding from experience that stone or marble exposed in the open air may be preserved by being saturated with wax, I take the freedom of inclosing my mode of applying the wax to the stone.

When I first proposed the use of wax as a repellent of moisture, Mr. Decimus Burton, who was architect for the Athenæum Club House, permitted me to apply it to the front of the exterior of the building, which I executed under his direction; the result has been most satisfactory, as the work, which is done in bath stone, can be made perfectly clean by the simple process of washing it with the same mixture which is generally used for cleaning marble. In the year 1828, Mr. Farraday, the eminent chemist, in conjunction with myself, made some experiments, and, to the best of my recollection, the result of the experiments was, that it was as twenty to one in favour of my process.

Noblemen and gentlemen, who are expending large sums in the erection of buildings, would do well to consider this matter, and architects ought to bear in mind, that their future fame depends much on the preservation of their work.

If this should be thought worthy of a place in your useful Journal, I shall feel happy in having it inserted.—Yours obediently,

John Henning, Jun.

17, Lower Belgrave-place.

Mode of application of Wax as a preservative of Stone, Marble, &c.—Procure a square sheet-iron case, the sides being penetrated with holes to admit of a current of air; the bottom of the case to be formed of iron bands, similar to those used in fire-places; at each corner of the upper part of the case there should be blocks, also of iron, with a chain of iron to pass over an iron ledger, which is placed between two tressels near the work. When this apparatus is suspended, light a fire in the case, using, in the first instance, wood and coals to light it; then feed the fire with coals till it burns brightly; you may then place it at a proper distance from the marble or stone which is to be impregnated with wax, say 3 inches distant from the sculptured work, and in a few minutes it will heat the stone sufficiently to enable you to apply the wax, which should be done with a hog-bristle brush; the wax being previously melted in a pipkin. Care should be taken to keep the works free from dust.

GERMAN CRITICS AND ENGLISH ARTISTS.

The following remarks by a German art-critic, on the exhibition of the Royal Academy, shew what our neighbours' views of English art are:—"If at Paris Mr. Couture's 'Decline of Rome' has attracted great attention, at London Mr. Huskisson's 'Summer Night's Dream,' deserves the palm. Amongst the sculptures, F. Thrupp's 'Girl caressing a dead bird,' is so fine, that one at first would doubt that it is made by an Englishman. But with such few exceptions, the *five thousand* specimens exhibited in London and Paris were little worthy of much praise. In England every one thinks to have ideas of his own, but when brought on either canvass or paper, they look very seedy and thin: every thing, in fine, is supposed to improve by varnish and ornament, but instead of turning out *spirit-ful* (geistig), it becomes insipid—if not bizarre and unintelligible. What mass of *consumption* and sickly allegories, and—as there is some smack of German romantics afloat, what mass of dissolving ghost—and dream-scenes full of mist, and haze, and all sort of dimness! Since the time of Wilkie's 'Blind Fiddler,' a flow of rural scenes has been *added* thereto, worked out with painful accuracy into the minutest detail; still, some of them approach, after all, near *reality*, and pictures of J. Philip, J. Middleton, W. P. Frith, are full of life and truth. But there is not one historical picture in the hall of Trafalgar-place, not excepting even those three Joan d'Arcs, and A. Johnston's funeral of Charles I. Conspicuous, however, are the landscapes of Stanfield and some others. Where the English are pre-eminent now, is in their miniature and water-colour painting, especially the former, by Ross, Thornburn, Foster, &c. But even here art strides over nature, detail over a grand *ensemble* thrown down with a few master-strokes. If we, therefore, combine the progress of art in France and England (to which Italy may be added), we can say that it is very inconsiderable. Speaking without prejudice, German art-tendency is now the prevailing—more natural and quiet than the French; more intern (*inward*) than the Italian; higher, nobler, in the conception, perfecter in execution than the English. If we were called upon to assign a reason for this inferiority of the English, 'under rather favourable circumstances, as they have arisen *of late*,' we would attribute it to a certain flippancy and want of seriousness, which has taken hold of the nation, and to whom every thing seems to appear in the shape of fun, pun, or *caricature*. If the latter were ever to become objects of art-exhibition, a great *negative* quality would then certainly belong to the English arts of design."

RAILWAY JOTTINGS.

The first trip with Mr. Crampton's six-wheeled engine, the "London," was lately run from Wolverton to London, at a speed of a mile a minute, the variations ranging between 56 and 63 seconds each mile. The motion, it is said, was perfectly steady, and a further speed may be expected when the machinery gets more smoothly into play.——It has been happily suggested, that 'those who run may read' in railway transit, if the movement be not very bad indeed, by merely sliding a slip of paper or a card along the page perused, from top to bottom, as each line is scanned, the eye being freed from the vibratory disturbance by the margin of white or other tint below.——The broad and narrow gauge forces have been waging war of late with one another, each by turns coming off victorious in the strife. The London and North-Western were defeated in their Cheltenham line; the Great Western won theirs. The broad gauge has been carried from Oxford to Coventry, and so, observes a contemporary, the Gauge Act has been virtually annulled, by a majority, in the Commons, of the Great Western party, against the narrow gauge party, *plus* two ministries, past and present, who were left in the minority!——The repair of the new tunnel of the Southampton and Dorchester line is in progress. The old tunnel is filled up under the public road, and the sinking is said to have ceased. It is suggested, however, that the solidity of the work ought to be tested by goods traffic alone for some months at least.——Great progress has been made at Birmingham with the Oxford line. The arches, on which it is to be carried into the very centre of the town near to the market hall, are in a very forward state. They "are of an enormous height," says the *Railway Times*, "and tower far above the tops of the houses." They are said, however, to be "of the most substantial description." The extension of the London and North Western to the same point, is also in a very forward state; both being to be completed at once.——At the Oxford meeting of the British Association last week, Sir Robert Inglis observed "Electricity was working wonders for the benefit and comfort of mankind. In the United States of America, there was an instantaneous communication of 1,300 miles; and when the *Hibernia* steamer lately carried out the intelligence of the dearth of corn in this country to Boston, it was instantaneously conveyed to New York, the streets of which were the next day filled with carts from neighbouring farmers laden with the produce of the country and for English use. It must be recollected (added Sir Robert) that to the United States we were first indebted for the introduction and exercise of the electric telegraph."

Society of Master Carpenters.—This Society celebrated their anniversary at Richmond on Monday last, Mr. Biers, the president, in the chair.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

M. Agassiz's Lectures at Boston.—The Lowell Institution of that city is one of the few where foreign *savants* are permitted to lecture. Such was the case with Professor Lyell, and lately the above Swiss geologist. The attendance at the latter was extraordinary; 7,000 persons applied for tickets, of which only 4,500 could be accommodated, although the lecturer repeated every delivery twice. They have been also the inducement for the establishment of a new museum of geology, as the lectures made the poor state of the present *locale* too conspicuous. The estimates and plan were soon made, 30,000 dollars subscribed within a fortnight, and in a few months the new Boston Museum will be ready. "This," says an American periodical, "is *our* way to do things."

Neapolitan Improvements.—On the late tour through the provinces, his majesty was accompanied by the director general of roads and bridges, and the king often ordered improvements and new works, when pelted by rain and wind.—A new Roman house has been excavated at Pompeii, under the direction of Cav. Bonucci, and the vestibulum and impluvium are already brought to light. Amongst the statues found, a female playing with two goats is especially fine. It is in perfect preservation, and has been placed in the Muzeo Borbonico.

Art in Frankfort.—Although there be some artists at that great commercial and banking city—art cannot be said to flourish appropriately. The *museum*, which once served as a centre for art and literary tendencies, wants remodelling—if not dissolution. Formerly art-works were exhibited here, and served for an *invigoration* of mind. This tendency has been lost sight of—and flippant amusement substituted.

VIENNA ART-EXHIBITION.

MAY, 1847.

HISTORICAL paintings have been more numerous this year than the preceding, owing, probably to a sort of exhortation on the part of the Art-Union to that effect. "Thence, it is a good sign, that our artists have turned their attention towards history, nay, Austrian history. It is, however, not to be gainsaid, that historical art is still deficient in higher attributes, and that it is more the anecdotical and accidental, than the truly grand, which is mostly represented. A chief cause of this anomaly is, that few historical painters are imbued with that, whence they derive their name—we mean *history*. He, only, who thoroughly understands the mind and essence of a period, can seize and render its events worthily. And it is a strange logic, to form merely the hand, which produces something, while that, *by* which this is produced—the *head*—remains untutored and *uncultured*." After these general remarks, we may first point to Rahl's "Manfred," elevated on the shields of the Saracens at Luceria—an art-work full of ingenious capacities and noble mind. A young artist, of the name of Zichy, has also produced some commendable work.

Sculpture is every where influenced by the possibility of producing extensive works; and this has been hitherto much wanting in Vienna. Now it is said, that government intends to erect several monumental fountains (*Brunnen*), in which native artists are to be employed. Mr. Pleuthner has made formerly some attempts at modelling the heroes of the Nibelungen song. Ramelmayer has made a model of Sta. Cecilia, destined for a joint monument of Gluck, Haydn, Mozart, and Beethoven. The art of chasing and die-sinking appears yet in its infancy, as, besides Mr. O. Steinbock's medal, no other work appears in this exhibition. In the department of landscapes, the Vienna school may be said to be piercing from the mere *vista* to the real art-work, and Professor Steinfel's "Dawn of Day" is a surprising performance. Mr. Valentini's works are also stamped by a high degree of seriousness (*Ernst*) and repose.

It is to be regretted that, amongst the oil paintings, no great work of architecture is to be met with, while, amongst the water-colour drawings, those of Heinrich (Roman ruins) and Alt are meritorious. A number of architectonic projects and plans, however, adorn the exhibition, mostly by Professor Rösner and his pupils. As far as the reproduction of art works by prints is concerned, some blame may be thrown on our publishers, as even an engraver like Mr. Tastiera has to occupy his time in vignette engraving. The coloured lithographs, however, issued from the Imperial Typographical Establishment, are deserving of notice.

Casting an ultimate glance at this exhibition of about 500 numbers, we cannot say (as some do) that art has retrograded in Vienna; still its advance is here, as in most places, nigh imperceptible. The appearance of novel powers and high talent is a thing over which a higher agency alone disposes: according to Goethe's saying, "*es ist dafür gesorgt, dass Bäume nicht in Himmel wachsen.*"*

A VISIT TO STOWE.

MR. EDITOR,—The increasing value of your labours, lays us all under an obligation to assist you whenever we have it in our power, for in the case of a publication issued at such brief intervals as yours is, it is only by the combined aid of numbers that it can reach its full efficiency.

I send the following which you may perhaps find room for, for the benefit of your younger readers in the south.

At a season of the year when a short absence from the office is usually allowed the architectural student, with a view to a summer ramble, he may be glad to know of one which combines the *dulce et utile* to no inconsiderable extent, and which I took, myself, with a pupil, last week:—it was to Stowe, the seat of the Duke of Buckingham.

Leaving Euston-square Station at 3 P.M., we reached Wolverton at 5 P.M., and walking thence round by Buckingham, we arrived at a comfortable inn close upon the park entrance of Stowe at 10 P.M., a distance of twelve miles. Beginning early the next day, we spent the whole in viewing the beauties of the place, and at 4 P.M., started again on foot for Wolverton, returning thence by a ¼ p. 8 train to London, reaching home by ¼ p. 10, having left it just thirty hours:—our united expenses of every kind reached 2*l.* 13*s.* 6*d.*

Well knowing the character of the architecture of Stowe, I had not raised my expectations at all high, and I was not therefore disappointed, for there was certainly no one object, among the numbers that adorn the place, that, purely as a work of architecture, gave me entire satisfaction, but as lessons for the combination of architecture with foliage, and for the play of light and shade on the several structures in their multiplied varieties, I have seen no where else in England any thing that approaches it. The variety for study of effect in the temples, pavilions, columnar monuments, groups of sculpture, and other features, is most interesting, and for the architect and architectural draftsman, most improving,—a practised hand with proper materials, would bring away in a week a portfolio of reminiscences which he might have, alas, to pay much dearer for in fetching from the continent, but which when obtained might not perhaps be in reality more to his purpose.

The grandeur of the park and the beauty of the timber; the truly palatial character of the mansion and its appendages; the princely magnificence with which the grounds are kept up; the high principles of liberty and morals, which in many cases the very stones are inscribed to inculcate, and above all, the generous liberality with which the whole is open to the public, render the place pre-eminently inviting to the artist, whether for profit or for enjoyment. And if, as Sir Joshua Reynolds observes, the student's seasons of recreation are to have a bearing on his profession, a visit to Stowe offers, indeed, a rich opportunity for such a purpose.†—I am, Mr. Editor, yours very faithfully, NONNULLUS.

London, June 27, 1847.

SHORT TIME ON SATURDAYS.—A memorial has been forwarded simultaneously to many of the builders of the metropolis from the joiners in their employ, asking to leave off work at three o'clock on Saturdays, and receive full day's pay. It is to be hoped that the matter may be arranged in a friendly spirit.

* It is provided for, that trees will not grow up to heaven."

† The house can be seen internally by the public on Tuesdays and Fridays only; but this my visit did not accomplish.

HEALTH IN THE CITY.

IN consequence of statements recently made to the Lord Mayor, respecting the state of the cesspools, and the accumulation of filth in the cellars of many houses, the Commissioners of Sewers have commenced proceedings against some of the landlords, under the cholera Act, 9th Vict., chap. 96, which empowers them, upon receiving the certificate of two medical gentlemen, that there is in any house or other place an accumulation of noxious matter of any kind, or any foul privy or cesspool, to make complaint to the magistrate, and cause the owner of the house to be summoned, and an order made that he should abate the nuisance within forty-eight hours. In default of his obeying this direction, the order required the commissioners to enter the premises and abate the nuisance at the charge of the landlord.

Various parties were summoned to Guildhall a few days ago, and in one case where the landlord refused to attend, Mr. Alderman Musgrove made an order for the cleansing of cesspools complained of, within twenty-four hours. The Alderman said on that occasion, that "as the chairman of the Commission of Sewers for the Tower Hamlets and a commissioner of the Holborn and Finsbury division, he had a practical knowledge of the subject, and he would affirm that if the legislature would entrust the Commissioners of Sewers with the authority to compel the owners of houses to make underground drains to the great sewers constructed by the commissioners, the grievance might be entirely removed without the interference of Government or any of the Government commissioners. He could vouch that, particularly within the last three years, the most anxious attention, and vast sums of money had been devoted to making proper sewers in the thoroughfares, but they could not persuade or compel the owners of houses to open a communication with those sewers at their own expense, and particularly the owners of houses in courts. The public local burdens were quite heavy enough without adding charges that clearly belonged to private individuals."

We cannot avoid referring here to the recent death of the strenuous and able advocate of sanitary regulations, Dr. Lynch, by whom the above proceedings were chiefly originated. He died at the early age of thirty-eight.

WATER ENTRANCE TO THE DOGE'S PALACE, VENICE.

THE water entrance to the Ducal Palace is in the back of the building, opposite to the prisons, a narrow canal running between the two structures.

The architecture of this front of the palace is plainer than the other more public portions; the most decorated part of it is the entrance-gates, which are in the style known by the term *cinque cento*, of which beautiful style Venice contains so many elaborate examples.

The shield of the doge who erected the building, the insignia of St. Mark, and ornaments, such as dolphins, syrens, allusions all illustrative of the power, the prosperity, and maritime history of the republic, adorn the front of the building.

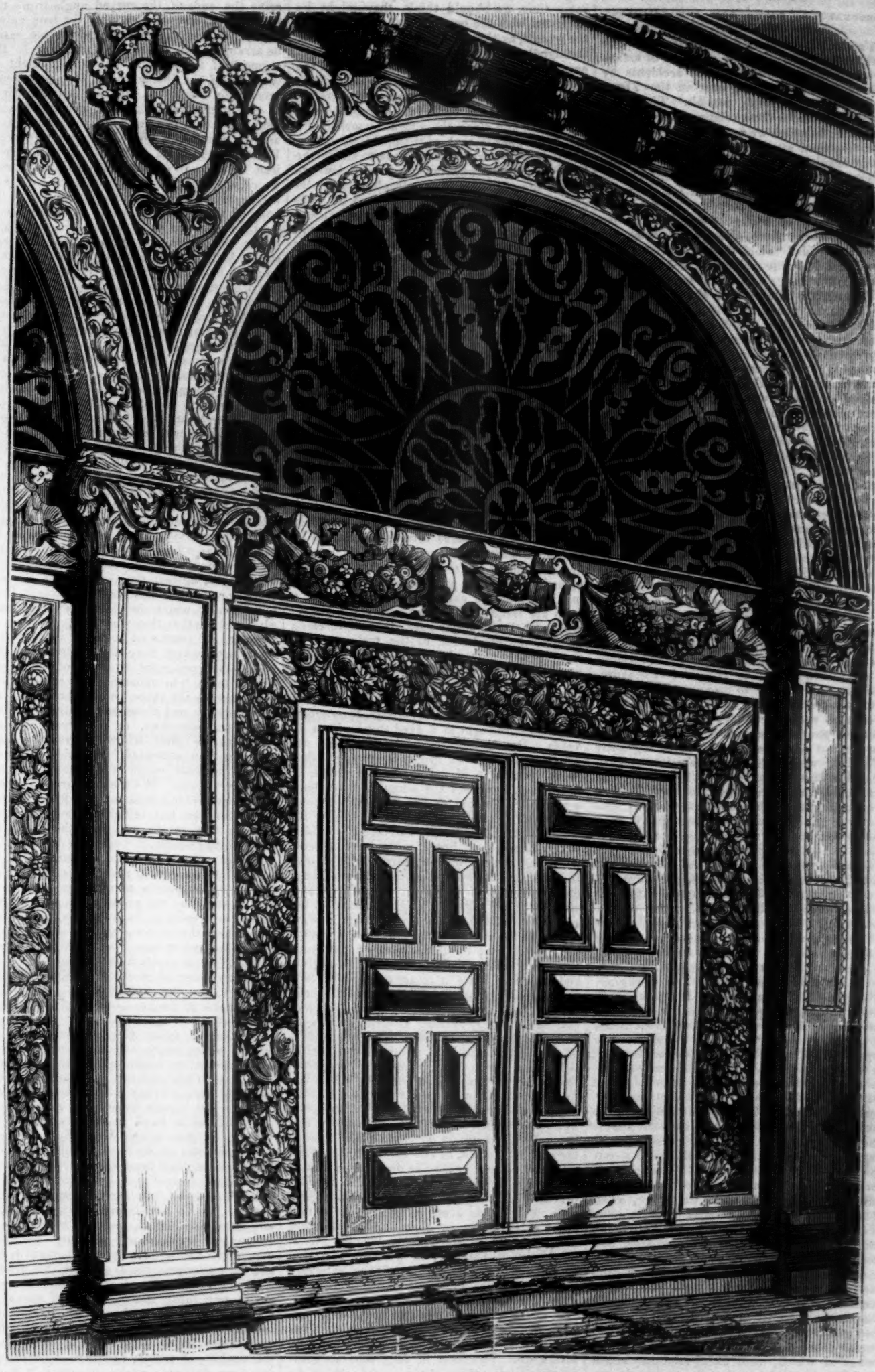
The architectural composition of the entrance-gates, notwithstanding the difference in width of the pilasters, and the great width of the opening, is extremely elegant; the decoration, although pervading every part, is not too rich, nor does any superfluity appear.

The sculptured representation of leaves, fruit, and flowers in the architrave, and the festoons and centre enrichment above, are all worked with considerable delicacy and great skill.

The doors are of cedar; the lower part of them is rather injured by the prows of the gondolas and the salt water dashing against them; with this exception, the whole of the composition is in good preservation. As the canal in front of the building is not much frequented, the doorway is little known, and is seldom seen by visitors.

The representation here given, like that of the fire-place in the palace of the dukes of Burgundy, given in No. 226, was made from materials preserved in the library of the School of Design, Somerset House.

C. J. R.



WATER ENTRANCE TO THE DOGE'S PALACE, VENICE.

RAILWAY ACCIDENTS AND THEIR PREVENTION.

FORTUNATUS'S 'WISH,' AND THE RESPONSES THERETO.

THE public demand has lately risen into one simultaneous outcry for the adoption of means for the effectual prevention of accidents by railway, which a civil engineer in the *Times* declares to be *perfectly possible*. The chief desiderata, besides those relating to security of the works, to which we have already elsewhere given repeated attention, are the adoption of means requisite for a direct communication between passengers and guards, and between guards and engine-drivers, and for the more effectual power of instantly checking the onward progress of trains towards otherwise inevitable destruction. New suggestions are ever being added to old for the attainment of these most desirable objects, which directors, however unwilling, will feel it no easy matter much longer to delay setting about in earnest; for the public or not to be longer obfuscated and baulked in their determination by the implied ignorance of practicable means, as lately expressed, on Colonel Sibthorpe's notice in the Commons of the increase of accidents, by Mr. Hudson, who "wished that those who complained of accidents would suggest some of those precautions which hitherto the directors of railway companies had failed to discover." None are so blind as those who do not wish to see, or have not the spur of self-interest in enabling them to see. The turning over of a few pages not only of THE BUILDER, but of any other periodical which pays the least regard to the welfare or safety of the public, above that fractional quantity paid to so humane an account by railway directors, would have at once forced on Mr. Hudson's obtuse vision, abundant evidence of the fact, that "those who complain of accidents" [and have they nothing to complain of?], *have already* suggested an abundant variety of those precautions which, however, it would cost directors some little expense at first to realize, and which they have accordingly "failed to discover." Is the mystery of the railway break so profound or obscure, that any one can fail to discover that even an ordinary break, with a breaksman at each, or even each second, carriage in a train, would secure a power of preventing accident by concussion not now possessed? Is the ingenuity of railway engineers and others interested—or rather *dis*interested—so sadly at fault that practicable and efficient (and neither troublesome nor expensive) means of establishing a direct communication between passengers, guards, and drivers can be neither suggested nor realized? Is there any one *else*, then, besides Mr. Hudson, possessed of cool *moral* courage sufficient to maintain the affirmative of these two simple questions? Why, both immediately before, as well as immediately after, he gave expression to his 'wish,' the newspaper press was literally deluged with additional suggestions, many of them by practical men; and strange it would be, certainly, if some of these suggestions were not as practical as their authors. An 'engine-driver,' in the *Times*, plunged still more deeply into causes, past, present, *and to come*, and their inevitable consequences if sufficient means of prevention be not timeously adopted. The suggestions of a 'civil engineer,' already noticed, as to guards, signals, &c., are eminently practical. A correspondent of our own [J. J., of Battersea], adds another to the numerous suggestions already published on the subject of the means of intercommunication between guards and driver, namely, that the usual 'danger flag,' with a bell attached, be affixed to a conspicuous or convenient part of the engine, on an iron staff or pole, about 3 feet in length, so jointed as to lie horizontally till in use, when it may be raised to the perpendicular by a line of catgut, running on friction wheels along the train, beneath the seats of the guards, and through each carriage, under proper protection, the separate portion of the line in each carriage being linked, one with another, by means of a screw, between the carriages; so that either a guard or a passenger may give the signal. Our correspondent is prepared to furnish details for the working of his plan, by means of which, also, one guard may alarm his fellow guards as well as the engine-driver, while the danger-flag would also attract the attention of the officers on the line. If it should be thought prudent to prevent the passengers from communicating directly with the engine-driver, of course the arrangement might be modified accordingly; while, at the same time, we should think, they might be entrusted with the power of at least alarming the guards, as these, one another. In raising the signal and giving the alarm, on the plan in question, the guard "has merely to press the gut into a notch made in the friction wheel, and turn it: it will then immediately wind up the gut from both ends, and, therefore, raise the signal, and alarm the guards by means of a bell fixed near to each of them, the revolution of the friction wheel to be made to strike the bell." A correspondent of the *Mining Journal*, again, suggests that a small electrical telegraph, at a trifling cost, be placed in each guard's *van* [which is always in the *rear*], and thence communicate with the engine-driver at the opposite extremity of the train; so that only the guards would have it in their power to stop the train, while other means of course might be adopted for the communication between passengers and guards. For that purpose, a correspondent of *Herapath* proposes that a small portfire should be placed in each carriage. A new invention also for the more speedily arresting the course of a train in cases of danger has been patented and lately exhibited by a Mr. Lee. It provides for two classes of danger. For unexpected concussion, a buffer projects from the carriage or engine, and any force coming in contact with it lets down a drag or break upon the rail, which immediately stops the carriage. Although, perhaps, this contrivance would not at once stop the whole train—though with a buffer to each carriage that might almost be accomplished—it would prevent the occurrence of what is most to be feared in cases of concussion—that is, the dreadful effects caused by the meeting of two opposite forces, the progressive and the arresting, by which the carriages in the centre of a train are frequently heaved up or completely crushed. In the other case, that of foreseen danger, the conductor of the train can, by turning a handle, almost immediately arrest its course. It was stated by the inventor, that on the Croydon Railway a train of 19 carriages, descending an incline at a velocity of 35 miles an hour, was, by breaks to one carriage only, brought to a dead stand within 55 yards. Breaks to one carriage in nine are considered to be the requisite average. Still more recently a Mr. Thomas Blanchard, in the *Times*, proposes the adoption of perhaps a still more feasible, or practical and economical, as well as powerful system of breaks. He suggests, that while every carriage is provided with a break, each break could be connected with that of the preceding carriage by an iron rod, and this union be continued throughout the whole line of carriages; so that one rod, connecting all together, might be fixed to the machinery of the locomotive in such a way, that when the engineer saw danger, and wished suddenly to stop the train, he could, by means of a lever, reverse the movement of the engine, and instantly cause it to act temporarily on a screw, which would tighten the connecting-rod of the breaks, so as to lock the wheels of every carriage, thereby offering immense resistance to the impetus already given. That the buffers of carriages should be all precisely on the same level, has been also repeatedly suggested for the prevention of that tendency which the lower has to throw up the carriage to which the higher is affixed; but even on that subject a new suggestion has been offered, namely, that the buffers in front be concave, while those in the rear be convex, or *vice versa*, so as to lock into each other, or tend to do so, even though not exactly on the same level. Then, too, for the more thorough protection of passengers, even in such an event as that of a mutual crush of carriages in a concussion; another correspondent of the *Mining Journal*, Mr. J. J. Grylls, of Llanelly, in pointing attention to the utter unsuitableness of the carriages used on railways for passenger traffic,—their flimsy construction, their hitchings and buffers, and, above all, their box-like and totally unprotected form, as altogether inadequate to the service required, describes a plan for their reformation. The form of each separate compartment or carriage, he suggests, should be round,—a hollow globe—instead of an oblong or a square. It should be a framework of "*angle iron*," such as is used in shipbuilding, &c., the ribs uniting or meeting at the centres which come in contact with the next carriages; and a strong cap, or plate of iron, should receive the ends of the curved angle-iron—the whole to be cross-stayed, and the iron galvanized. A doorway on each side could easily be arranged, without much detriment to the strength of the whole. The arrangement of seats *round* the inside would be pleasant and safe—*safe*, compared with the present edges of two boards ready to meet, in case of accident, just below the knees of the passengers; and the ventilation might be greatly improved. Place this kind of "*shield*" upon a strong iron frame, and allow the carriage wheels, which by this plan might be larger, and suit increased speed, to run altogether clear of the body of the carriage, and so avoid the imminent danger arising from wheels and axles *under* the carriage. A very suitable and simple buffer frame, he adds, might be made so as to be equally efficient in curves, which the present are not, and in straight lines. The advantages of such an arrangement and construction of carriage, he observes, are very numerous—some of which he proposes to point out, with drawings of the plan.——In short, Mr. Hudson's 'wish' has been as promptly and as superabundantly responded to as if the iron crown, or crown of brass, of this most fortunate speculator, had been Fortunatus's wishing cap itself.—— Meantime, however, Mr. Hudson and his directorial colleagues never "fail to discover" any thing in the form of even a mere shadow of coming events that may tend, or appear to tend "to endanger the security, and to depreciate the value" of railway property, or to "interfere with that freedom of action which is indispensable to the efficient management of railways;" and accordingly, H. M. Mr. H., and a host of his fellow "chairmen," were not slow in setting their faces, and their holographs, against the Government Railway Bill (or rather the Railway Government Bill), one form of which they had previously strangled, and another they were lately inviting, by circular, all interested to assist in effectually opposing,—which they did, in truth, to purpose.—But we were treating of what very plainly tends "to endanger the security, and to depreciate the value" of human life on railway property, and of course any allusion, either to railway directors, or to circulars issued by them, to their fellow-chairmen, inviting them, as "all interested," to assist effectually in this common cause of humanity, is somewhat irrelevant. We must return, therefore, to that cause for a moment, the importance of which will be our sufficient excuse, in order that we may briefly add from the *Times* the general suggestions of "one who has travelled much by railway," for the obviation of a variety of the dangers of railway travelling. And this we do designedly *ad nauseam*, and merely just to shew, by one proof more, without any special reference to its merits in comparison with others, that such suggestions as Fortunatus wishes for are, in fact, "as plentiful as blackberries," or as pearls from the mouth of that unhappy sister of Fortunatus, who delivered the article, like syllables in speech, by paragraphs at a time.——1. Buffers throughout a train ought to be of exactly the same height from the ground, so as to strike fairly, centre on centre, otherwise in a concussion the lower will throw the higher with its carriage upwards. 2. Every carriage ought to have a break. 3. Passengers might signal to the guards by help of a sufficiently powerful bell at hand in each carriage; and guards, in turn, to the driver by a few prearranged notes on the bugle, as of old. 4. No engine in the least degree unsteady ought to be allowed to run at all. 5. Absolute punctuality, both in starting and arrival, ought to be enforced. 6. No oscillating carriage or truck, any more than engine, ought to be allowed to run, and no truck should be placed before a carriage. Lastly, luggage-trains ought not to run on passenger lines at all—actively or passively they have caused many accidents.—— As to any thing like a saving of money by staving off the outlay of any little expense that may be necessary in the carrying out of effectual means for the prevention of accidents in the working of trains, exclusive of those arising from defective works, to which it is not the object of the present article more particularly to allude, we would earnestly call on railway directors to consider the result of one of the recent accidents, namely the concus-

sion at Wolverton. The loss to the company by that one accident will amount, it is understood, to between 20,000*l.* and 30,000*l.*,—a sum which would of itself have paid for a great many additional breaks and breaksmen, besides thus saving a good many lives, which no 'compensation' can either make up for or replace. And in conclusion we would as earnestly call on Mr. D'Israeli, as a legislator, to *suspend* a director forthwith if the public appeal now ringing in their ears shall prove as unavailing as we fear it may; and to that end he need not go far from his seat on the opposition benches of the Commons House of Parliament to find the fitting subject; before whose cool and calculating eye we would, in the meantime, moreover, wish very much to place the following little intimation of means already adopted, by decree, in the certainly somewhat imperious, if not the less really free, dominions of his majesty the Austrian Emperor, for the prevention of injury *to* railways;—an intimation extracted from *Galignani*, and from which it appears, that in Austria they are *beginning* to know a little better how to deal with such subjects than we do. We only wish that the trifling little amendments, which we have taken the liberty of appending in brackets, and which might as well have been inserted in the original, were embodied at least in an Act like the one alluded to, and carried by Mr. D'Israeli *versus* Mr. Hudson,—that is, in spite of him,—through our own House of Commons:—"Any damage done to [or by] railways, to [or by] the machines, means of conveyance, &c., of a nature to endanger the lives, safety, or property of individuals, shall be punished with from one to five years' imprisonment [of all concerned] if no accident occur; and with from five to ten years in the event of any accident. Any act [or omission] causing any such injury is to be punished with the same penalties; and any *employé* [director or other manager] of the *railway causing accidents*, whatever may be their consequences, by his negligence [or neglect of effectual means of prevention], is to be punished with from five to ten years' imprisonment; if the consequences of the accident are very serious, with from ten to twenty years' imprisonment; and if death be caused, with the punishment of death [to his *directorship*,—of course by *suspension*]."

SOCIETY OF ARTS, ADELPHI.

GLASS—STONE.

JUNE 9.—Mr. George Moore, V.P., in the chair. A paper by Mr. Deacon was read, "On the manufacture of the sheet and patent glass, as practised at the St. Helen's Glass Company's, Lancashire." The process consists in blowing out the glass in the ordinary manner into the form of a large glass bottle: it is then brought into a form almost cylindrical, and split and distended by means of heat, and formed into a flat sheet.

A paper by Mr. Teycheune, "On his process for rendering all soft and porous stone hard and impermeable, and also for varying the colours of the same," was also read. The process employed consists in drying the stones in a heated apartment until all dampness is evaporated: the stone is then cut to the form designed. Coppers are constructed in a manner adapted for being heated by fire or steam, and these contain the composition or stone to be hardened. The composition employed is coal-tar, fine sand, asphaltum, resinous and bituminous substances, and mineral caoutchouc, vegetable resin, gums, oil, iron-filings, carbonate and silicate of lime, granite-stone (in powder), carbonate of lead, coarse clay, ochre, sand, other mineral earths, and salts. This composition is to be boiled with the stones several hours.

A communication was read by A. Angus Croll, on the domestic uses of gas. The author commenced by stating the difficulties which have hitherto stood in the way of gas being introduced and used for domestic purposes, and then proceeded to give a lengthened statement of its cost for lighting rooms, &c., as compared with oil or candles. He also described the new processes for purifying the gas as employed by the various Gas Companies in and about London, and concluded by exhibiting several models of his new dry gas meter, which he said is also being used as a surgical instrument for ascertaining the state of the lungs.

WESTMINSTER COURT OF SEWERS.

A COURT was held on the 15th ult. at the Sewers' Office, Greek-street; Alderman John Johnson in the chair.

A communication was read from the Railway Commissioners with reference to the rights of the Commissioners of Sewers being preserved in the construction of railways, and that a clause might be introduced in any bill for that purpose.

The question of the hydrostatic valve, for preventing the emission of noxious vapours from the gratings of sewers, the invention of M. Abate, and already described in our pages, was brought before the court, and referred to the surveyor to report thereon. The subject of untrapped drains was also brought before the court, in a communication from the paving-board of St. George's, Hanover-square.

C. Haimsworth, who had been summoned to appear for irregular drainage in Henry-place, Portland-town, was fined 10*l.* unless the orders of the court were complied with within one month.

Mr. Adams, of the Sun Tavern, Curzon-street, May-fair, was summoned for an illegal drainage into the King's Scholars' Pond Sewer. He stated, that the house had partially drained into it for twenty-five years, and called a workman to prove this fact. The matter was adjourned to the next court.

The Public Health of Marylebone.—The court appointed this day for the purpose of receiving tenders for the first portion of the works recommended by the surveyor for effecting the above object, viz., for 2,950 feet of sewer along Berwick-street, St. James's; and Wells-street and Great Titchfield-street, Marylebone. The tenders delivered in were as follow:—

J. Barr	£2,960 0
H. Perkins	2,746 0
Scisson and Co.....	2,430 0
Hill and Co.....	2,368 0
Williams and Co.....	2,340 0
J. Yeoman	2,199 0
Humphreys and Thirst..	2,185 0
J. Walter.....	2,031 19
W. Dethick	1,883 0

Mr. Dethick's tender was accepted.*

INSTITUTION OF CIVIL ENGINEERS.

JUNE 15.—The president in the chair. The paper read was, "On the Law which governs the discharge of Elastic Fluids under pressure, through short Tubes and Orifices." By Mr. William Froude.

The law proposed was a modification of that which has been usually assumed, viz., a simple application of that which holds good with respect to non-elastic fluids. This law is generally, that the velocity of issue is directly as the square root of the density; but this law neglects wholly the reaction that must arise from the expansion necessarily taking place in the course of issue. The nature of the action was illustrated by the following example:—If a balance be supposed, with an equal weight in each scale, one of the weights being a spiral spring, like that of a spring balance, compressed lengthwise with its axis vertical, and held in a state of compression by a cord; now let the cord be suddenly severed, so that the spring is enabled to extend itself vertically,—the scale in which it stands will obviously be depressed, the spring re-acting on it as it expands upwards, and continuing to press till wholly relaxed; or if the scale in which it stands were ascending by a preponderance given to the other scale, the rate of its ascent would be in the same way retarded.

The amount of the retardation would depend on the strength and weight of the spring, and on the length to which it would extend itself when released. Now, in the discharge of an elastic fluid, there is an action strictly analogous, operating continuously, however, instead of *per saltum*, the strength and weight of the spring being represented by the elasticity and density of the fluid, and the length to which it would extend itself by the degree of expansion in the course of issue.

The reduction in quantity of discharge, due to the action, was to be measured by the velocity imparted by expansion to each particle of the elastic fluid in course of issue; the velocity of each particle after expansion would be its velocity before expansion, multiplied into the rate of expansion, and the primary force must be subdivided in generating each additional unit of velocity, so that the portion applicable to the generation of velocity before expansion, would be the whole force divided by the rate of expansion; thus the velocity before expansion would be divided by the square root of that rate. For instance, an elastic fluid expanding four times in course of issue, would be discharged with only half the velocity of a non-elastic fluid, under the same circumstances of pressure and density. This modification was shewn to fulfil the general dynamical law, "that a given force acting for a given time will produce a given momentum, whatever be the weight of the mass acted upon,"—this seemed to be the essence of the law for non-elastic fluids; but it was disregarded by the unmodified application of that law to elastic fluids, in which there would be a great accession of velocity, of particles issuing under a given pressure, without any reduction of quantity discharged in a given time; if, however, the quantity be reduced as proposed, in the ratio of the square root of the density, and the velocity be accelerated in the same ratio, the final momentum would be the true equivalent of the pressure.

This, in its practical application, explained what was inexplicable by the ordinary theory,—the difficulty experienced from the backpressure of the waste steam in locomotive engines; and a diagram was given, shewing that at sixty miles per hour this would be at the least equivalent to 8 lbs. per inch throughout the strata, thus shewing a loss of nearly fifty horse-power.

After the meeting, Mr. Lambert exhibited his flexible diaphragm water-valve, which was intended to remedy some of the defects of the plug-cock. It avoided the leakage and necessity of repairs.

June 22nd.—The paper read was by Mr. Joseph Glynn, giving "An account of the plans that have been proposed for connecting the Atlantic and Pacific Oceans by a navigable canal."

The author took a review of these projects, from the time of Cortez, who proposed to cross the Isthmus of Tehuantepec by joining the waters of the river Coatzoccoalcos, which flows into the gulf of Mexico, with those of the river Chicapa, flowing into the Pacific by the Bay of Tehuantepec; a plan which has lately been revived by Don José de Garay, who with the assistance of Signor Moro, surveyed the country from sea to sea, and shewed that the chain of mountains is there broken for about thirty-five miles, giving place to an elevated plain, or table land, called the Mesa de Tarifa, where both these rivers originate, and where their junction would be easily effected. The objections to the plan are the length of the river navigation, about 200 miles, and the ascent of the stream to the Mesa de Tarifa, about 200 metres, or 656 feet above the ocean.

The Isthmus of Panama presents fewer obstacles than any other points. The whole distance from sea to sea is only about thirty-nine miles, and the country is traversed for nearly the whole width by the great river of Chagres and its tributaries, which are interlaced, as it were, with the streams flowing to the Pacific. The chain of mountains here sinks into extensive savannahs and forests, with a few detached and isolated hills of small elevation, seldom exceeding 500 feet in height.

The country was surveyed in 1828 at the instance of General Bolivar, by Mr. Lloyd, an English officer, who also took the levels, and determined the difference between the two oceans to be 3½ feet (3·52), the waters of the Pacific being the highest.

The maps, plans, sections, and other valuable information deposited with the Royal and Geographical societies, seem to have created but little interest in England; but they have been diligently examined, and extracts and copies taken by foreigners, who have had free access to them, especially by the French; and M. Guizot lately sent M. Napoleon Garella as engineer-in-chief, with a numerous staff of assistants, to make a further survey, and ascertain the practicability of making a canal. This

* In reference to the large balance in hand at the end of last year, alluded to in our last, we were informed that that sum had been reduced on the 15th of June last, by the payment of works in hand, to 712*l.* 12*s.* 6*d.*, which balance had been still further reduced at the present time.

survey has fully confirmed that of Mr. Lloyd, and proves that there are no obstacles which engineers and contractors of the present day could not encounter and overcome without much difficulty and expense,—the difficulties being more of a political character, and to be dealt with by statesmen rather than by engineers.

New Books.

Engineering Field Notes on Parish and Railway Surveying and Levelling. By Henry James Castle. Simpkin and Marshall.

This is a work of considerable importance to practical engineers, inasmuch as it supplies them with a fund of useful information in reference to general surveying, but particularly so as regards levelling and the laying out of railways. The impression before us is the second that has been required, and is dedicated to Sir Richard Bonnycastle, a gentleman of high scientific attainments, and eminent as a surveyor in difficult and almost inaccessible localities. The author himself is advantageously known to the public, not only on account of his scientific labours, but from his extensive experience as a practical surveyor in the woody regions of Canada and elsewhere. Our space is too limited to admit of extracts as specimens of the manner in which the book is got up, but we may state in general, that the typography is good and the language sufficiently perspicuous to be comprehended by practical men of even the meanest capacity. This speaks in commendation of the work, for modern writers, through the vanity of display, are apt to treat their subjects in a manner that can only be understood by men of science and extensive mathematical reading.

The work is divided into five parts, and subdivided into chapters, each chapter giving a lucid detail of the subject under consideration. The directions in Part I., on running the base lines and carrying on the range in case of obstacles, are particularly valuable, and worthy of the reader's attentive perusal; and the surveys of Hendon, Finchley, and Wigston, with the method of plotting, cannot fail, if carefully considered, to impart correct and extensive information in regard to those very important topics.

In Part II., where the mode of surveying by the theodolite is given, much useful matter is contained; but we cannot help thinking that the chapter on trigonometrical problems might have been extended with very considerable advantage, as there are many cases which occur in modern practice of some difficulty, that the author has not alluded to; and he might, with some show of candour, have acknowledged the source from whence he obtained the principle on which he grounds his solutions. We are somewhat cognizant of this subject, and beg leave to refer our author to an early number of *Colburn's United Service Journal*, and say if the idea did not originate there, although the writer's name does not appear. "The lion is known by his paw."

The trigonometrical survey of Hampstead Heath, as connected with Streatham Common, will be found particularly useful to young surveyors; but we are forced to say that the example of triangulation, given in chapter 10, Part II., is not good; many much more instructive and interesting examples might have been selected from the "Ordnance Survey," and the author would not have depreciated the value of his work by producing them.

Part III. explains the method of surveying by the circumferentor, an instrument, which, as improved by the French, is likely, in our present extensive operations, to come into very general use. Part IV. is on levelling, one of the most important and delicate branches of general surveying; the author's mode of treating the subject is particularly judicious, and young surveyors will find their advantage in attending to his remarks. Part V. treats of railway curves, and the manner of staking them out. This is an important branch of modern engineering, and cannot be too carefully attended to by the aspirants to constructive fame. The work concludes with an appendix, containing field-notes, and a traverse table for carrying on a survey by the circumferentor; a mode of practice which we anticipate will meet a very general appliance in subsequent operations in the field, as the instrument is very simple in its construction, and easily understood.

A Popular Atlas of the World, Illustrated by Geographical and Statistical Descriptions. Edited by James Wyld. London. Wyld, Charing Cross, Nos. 1 to 4.

To Mr. Wyld, one of the most enterprising of our map publishers, the public are indebted for constant attention to passing events, and the supply of the best information in his department, at the right moment. The discovery of a new island, or the success of our arms in India, is no sooner announced, than Mr. Wyld issues a map of the locality, accurately though speedily prepared.

The work now before us, as its name explains, is of another kind. It is an endeavour to place a first-rate atlas within the reach of all, and deserves to be supported. Each monthly No. (of which there are to be 24) contains two large maps and illustrative letterpress at a very low price.

Correspondence.

PLASTERING ON CLAY WALLS.

Sir,—In different parts of England there are cottages built with clay, and when newly plastered and whitewashed, they have a very neat appearance. But the misfortune is, that it does not continue long, for the frost and weather soon make the plaster break off from the clay-walls. Now the object of my troubling you is to know, whether any thing can be or has been invented to remedy this evil. It is an important question, and there are thousands that will be benefitted by a successful solution of it. I am, Sir, &c.

A Young Architect.

Miscellanea.

Union of Chinese Masons and Carpenters.—After the recent extraordinary feat of British alacrity and valour in the taking of every fort on the Canton river, and the spiking of about 900 cannon by 1,000 men, without the loss of a single man, a proclamation was issued by the Chinese gentry, &c. of Canton, intimating, that as the English barbarians wished to build a temple for public worship; and also, across the river in Honan, to take possession of a tract of ground and to build a fort, the great body of masons and carpenters in the two cities (the old and the new) of Canton, had held a public consultation, and agreed together, that if the English undertake the prosecution of their works, as aforesaid, the men employed in these trades shall none of them be permitted to engage to complete their works on their own responsibility. And if at Hongkong, Macao, or Whampoa, there should be men who are willing to undertake it, the people of our two trades will make it their business to search out every workman of this sort by name and kill him, and to notify the inhabitants of the district to burn up the dwelling of every man who ventures to assume such a responsibility, which will be done without the least delay.

Freemasons' Asylum.—At the twelfth annual festival in aid of the funds of this incipient institution, held on Wednesday week, in the Freemason's Hall, Great Queen-street, Dr. Crucifix stated, that the committee proposed at once to erect the long-projected asylum, and intended in the ensuing month to submit a plan to the grand lodge for the purpose of carrying out the object of the association, by the immediate construction of a suitable building, towards the erection of which 4,116*l.* had already been contributed. He subsequently announced that 500*l.* had been subscribed at the dinner-table.

Association for Testing new Inventions.—An idea already broached in The Builder has, it appears, assumed a practical form by the establishment of a company in France, "for the purpose of studying, constructing, and experimenting on new inventions connected with locomotives." A correspondent of the *Mining Journal* suggests the utility of such an association in England for the redemption of really valuable inventions from neglect or difficulty and oblivion.

Gibson's Statue of the Queen.—The silence which prevailed in respect of this long talked-of work was somewhat curious. Report said it had been lost at sea on its way to England; in truth, however, it was safely landed at Southampton, and is now in the Royal Academy. *The Roman Advertiser* has given two articles on the statue, from which we learn that the colour, applied sparingly in its decoration, has led to a contest of opinion. We extract one or two paragraphs. "This work has become an object of much attention from the style in which the artist has completed its details, with the use of colour in the ornaments and embroidery of the dress. We need not dwell upon its beauties, except to say that its completion has enhanced those which, when in an unfinished state, were already so distinguishing; and that in majestic gracefulness it not only raises the subject to its highest ideal without sacrificing truth of resemblance, but is a personification of the royal so obvious, that if discovered centuries hence, we believe there could be no hesitation in recognising it as the statue of a queen, even without the tiara, or any other insignia. We felt some alarm for its reputation on learning that it had been coloured, and visited it again, doubtful of receiving an impression so agreeable as the first. But the application of colour is so delicate, the tone so subdued, that no effect of glaring contrast is produced, and the pale purity of the marble does not, as a whole, suffer from the partial tinting. Nothing more is coloured than the rim of the tiara and the dolphins that ornament its circlet, in yellow; the wave-formed embroidery of the robe, and the rose, shamrock, and thistle at the corners, in red and blue; the acorns pendent from the extremities, where the Greeks wore weight of gold, in yellow." "The statue is one in which much detail is introduced, in which the effect sought is that of the majestic both from character and position. In such a one, where ornament is befitting, and richness, as far as suitable to sculpture, an attribute of propriety, the introduction of colour partially, and under the control of so refined a taste as this artist's, does not (speaking from our own impression) jar against principles, nor approach so near to the real as to prejudice the ideal of the subject. Though the detail is rich, it is softened almost to shadowiness, and not much nearer to the glare of dyed draperies, as actually worn, than the paleness of the marble to the warm hues of the flesh. It adds so much of the effect of splendour to the figure as to enhance its abstract character, that of female royalty, rather than destroy its purity in general effect."

Overbech (says a correspondent of the *Daily News*) has just executed one of those graceful and touching little outline drawings in which his real genius is conspicuous; and his present effort will be shortly known extensively in Edinburgh. Bishop Gillies, who is personally a most amiable and kindly man, full of zeal for bettering the operative classes, has founded, it appears, a sort of holy guild in modern Athens, and prizes are given to those of the brotherhood who excel in "thrift and cleanliness." Overbeck was asked by the patriotic prelate to furnish the design for a medal to be distributed on these occasions, and I have seen the result. It is the holy dwelling at Nazareth displaying a modest but neat interior; Mary is at her distaff on the right, Joseph plying his axe on the left, and the mysterious young indweller among men is humbly engaged sweeping the chips of wood from the earthen floor with simple dignity. The general effect is harmonious and beautiful.

Alterations in Westminster Abbey.—A correspondent of *The Times* complains that the alterations for some time contemplated (not in Westminster Abbey alone) for the laudable purpose of increasing the accommodation of the public at divine service, were only delayed till the force of public opinion against them had settled down, and that the plan of removing the screens between the transepts and the choir, and fitting up the former spaces with seats, is now being carried into effect, although he conceives the nave to be the proper place to be appropriated to that purpose, the only obstacle being the organ screen, the architect of which objects to have it taken down.

Baths and Washhouses. — From the statistical and other returns presented at the first anniversary festival in celebration of the metropolitan establishment, held on the 16th inst., it appears that from the opening on August 3rd, 1846, to June 12th, 1847, 80,670 bathers had frequented the establishment, of whom 72,810 were males and 7,860 females. The washing was for 82,872 individuals, and was represented by 20,708 women, who may be estimated to have washed 800,000 articles of clothing: besides 800 daily bathers, 200 to 300 are refused admission from want of baths. Receipts including 1,375*l.* from working of establishment, 5,955*l.* Expenditure, including cost of building, fittings, &c., 6,759*l.*—debt 804*l.* Profit for ten months, 446*l.*—The building in St. Martin's-in-the-Fields, the tenders for which we lately gave, is to contain 64 baths, and 54 washing places. The unanimity of the rate-payers of St. Martin's in favour of these proceedings, forms a curious contrast with the animosity and ado about the like proposal in Marylebone. It would be rather a sickening process, to detail the bickerings and petition prayers—plus con, minus pro—of late got up anent the Stingoitic project, in which Sir Peter Laurie has taken a distinguished lead on the adverse, or dirty side. The latest move, however, we may state, consists in the retrograde or negative one of "nonconfirming a minute approving of the recommendation of the commissioners, for the purchase of the site of land at the Yorkshire Stingo"—the nonconfirmist meeting, however, negatively promising the possibility of veering round once more, should the offer of government to purchase a portion of the land be repeated, and the remainder be still sufficient.

A Metropolitan Nuisance.—At the recent conference in support of the Bill of Health, the Marquis of Normanby, on the principle that one example was worth a good deal of declamation, detailed a few particulars in the history of one nuisance, viz., the pestilential pool of 700 feet in length and 400 in breadth, which *formerly* existed in Lamb's-fields, Bethnal-green — formerly, he said, because now, although improvement had been brought to bear upon this neighbourhood; although science, skill, enterprise, and speculation had had their share in the changes effected there; although the Eastern Counties Railway had reached Lamb's-fields, and over this pestilential pool thousands were borne upon the wings of vapour; yet, so far from the condition of the locality being improved thereby, it had deteriorated to such an extent, that now the length of the pool in question was 2,000 feet in place of 700! Thus then, while all that science could effect in order to develop wealth was successful, not only was the condition of this place made worse, but the condition of the people who lived there was deteriorated in the same extent. At that moment, he understood that an application had been made to the Commissioners of Sewers for the Tower Hamlets, and that they had not granted it, for removing this very evil, by cutting a sewer of 200 feet. Now, was not this a great shame?

Gypsum: Tutbury Church: To the Editor of *The Times*.—Sir: From a paragraph in your paper of Saturday, extracted from The Builder, it would appear that it was not generally known that gypsum when wrought with the chisel would long resist the action of the elements; will you allow me, through the medium of your columns, to call the attention of your numerous readers, interested in such subjects, to some very curious and beautiful grotesque sculptures of animals in gypsum, which form two of the divisions in the great arch of the western door of Tutbury Church, Staffordshire? The church formed part of the ancient priory, and was erected in or about the eleventh century; it is in the Anglo-Norman style, and I think it is one of the finest specimens of that style remaining in the kingdom. It is built of a very enduring stone, and the ancient part (for there have been modern additions) is almost as perfect, and the masonry as sharp, as when it was first erected. The gypsum sculptures above-mentioned are now in as perfect a state, or nearly so, as they were when they left the workman's chisel after a lapse of nearly eight centuries. Gypsum is very abundant in the neighbourhood of Tutbury, the chamber floors of all the houses (with few exceptions) of the town and country around being laid with it.—R. Tyrer.

British Archæological Association, June 25.—The mural paintings recently discovered in Great Waltham church, Essex, were the subject of some remarks by Mr. Fairholt at the meeting of this association on Friday in last week. Mr. Fairholt had made drawings of them, which he exhibited. He observed, that on visiting the church, which is now undergoing a thorough repair, he found the entire surface of the walls covered with fragments of painting which had become revealed in the process of removing the many coatings of whitewash from them. The most perfect of the series is situated immediately over the arch of the chancel, in a space about 9 feet high by 15 in width; in the centre is a figure of the Saviour, seated on a rainbow exhibiting his wounds; above him are attendant angels playing the trumpet and lute, with the sun and moon over their heads. On the right of the Saviour is a group of six crowned female figures, the foremost of which is regally attired, and has a *nimbus* round the head. This group is in a fair state of preservation, but that on the other side is not; it consists of the same number of male figures in attitudes of adoration, and their costume, in the general style of the drawing, appears to fix the date of the picture to the middle of the 15th century.

Ivy on Churches.—The paper of inquiries to churchwardens, issued by the archdeacon, always contains the question, "Is there any ivy growing on the walls, &c." A rural dean has appealed to the Archdeacon Ormerod, on his primary visitation, to consider before he issues his fiat for the removal of this ornament of many of our churches. He contends that, so far from the ivy rendering the structure damp, and so hastening its decay, on the contrary, nothing so effectually keeps the building dry, as may be seen by examining beneath the ivy after rain, when it will be found that the walls are dry, though every thing around is deluged with wet. And further he contends, that "its exuberant and web-like roots, issuing as they do from every portion of the branches, and running all over the surface on which it grows, bind everything together that comes within their reach with such a firm and intricate lace-work, that not a single stone can be removed from its position without first tearing away its protecting safeguard." In proof of this, he refers to ruins of our ancient castles and abbeys; "for while in those parts of the structure that have not had the advantage of this protection all has gone to utter decay, where the ivy has thrown its preserving mantle every thing is comparatively perfect and fresh, and oftentimes the very angles of the sculptured stone are found to be almost as sharp and entire as when first they came from the mason's yard."

Visitors to Royal Palaces, &c.—Captain Pechell, M.P., has procured a return of the visitors to various royal palaces, from which it appears that the total number of visitors admitted, free of charge, to see the state apartments at Hampton Court Palace amounted, in 1845, to 160,791, and in 1846, to 170,879. The number of visitors admitted to view Windsor Castle, amounted, in 1846, to 27,142. To the Royal Gardens at Kew, now one of the most accessible as well as delightful resorts to metropolitan residents, 28,139 persons were admitted in 1845, and 46,573 in 1846.

New Motive Power.—Mr. Fox Talbot, we hear, has taken out a patent for a new plan for generating and applying motive power. This he has effected by exploding gun-cotton alternately on each side of a piston. At the bottom of the cylinder, on each side, are two circular holes, in which the explosive material is supplied by a tubular slide. Passing through the cylinder is a platina wire, for the purpose of being excited by the galvanic battery, and thus exploding the cotton.

The Accident in Bermondsey. — The remark in our last number in respect of the fallen arch in Bermondsey, has led a gentleman concerned in the matter to forward us proof that due time was taken in the work. The evidence of Mr. Beazley and Mr. Grissell, at the inquest, fully establish the fact that the work was properly done.

Projected Works.—Tenders have been called for by advertisement for the various works necessary in the restoration of St. Mary's Church, Scarborough; the erection of a Parsonage House near Luton; the various works required in additions to Chignal Smealey Church, near Chelmsford; the erection of a dwelling-house and offices at Cuckfield; a church at Kentish Town; and Catacombs, vaults, &c. at the General Cemetery, Hull; extensive additions to stabling at Newmarket; also for the construction of 3¼ miles and 5 miles of the Vale of Neath Railway; and for the supply of timber of various kinds, sleepers, keys, &c., malleable iron, chairs, castings, tubes, brass and copper, &c. for the Newcastle and Carlisle Railway.

TO CORRESPONDENTS.

"*P. M.*" shall hear from us.

"*Nauticus*" is again quite illegible.

"*A. B.*"—Proper precautions must be taken, or it will not be.

"*P. S.*" (Falmouth).—We shall be glad of any information.

"*Whitehouse and Co.*"—The letter can only appear as an advertisement.

"*G. N.*"—We cannot reply without further information.

"*Sewer Traps.*"—By an error, not our own, the titles of the two sewer traps described last week are reversed. The first is Mr. Chadley's, the second Mr. Walker's.

"*T. L.*"—We cannot give the information required

"*T. B.*"—Ditto.

"*Δ.*"—Next week.

Received.—"J. S." "J. K." "E. W." "C. H. C." "H. T." "The People's Journal," Part XVIII., Edited by John Saunders; "Wonders of the Wire, a Manual of the Electric Telegraphs," by T. Phipson (Gilbert, Paternoster-row); "Westminster and Foreign Quarterly Review," for July; "Equitable Banks of Interchange;" "The Tradesman's Book of Ornamental Designs," Part II. (Orr and Co., Paternoster-row); "La Revue Générale de l'Architecture," Dirigée par M. César Daly, Architecte, Vol. VI.; "Etudes sur la Théorie des Voutes," par M. Fabré; "Du Symbolisme dans l'Architecture," par M. Daly; "Note sur l'Hopital en Fer du Camp Jacob," par M. Romand; "Wood's Edition of the Songs of Scotland," Nos. IV. and V. (Novello, 69, Dean-street.)

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N.B.—It has been satisfactorily ascertained that what are termed two-years seasoned flooring boards, contain from 8 to 10 per cent. of moisture, causing a shrinkage of one-eighth of an inch in the width of the board, which is obviated by the new process.

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I. FARRELL, Secretary,
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